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Georgia Highway Express, Inc., 488 F.2d 714, 717-19 (5th Cir. 1974). These factors govern fee petition analysis in the Fourth Circuit. See *Barber v. Kimbrell's, Inc.*, 577 F.2d 216, 226-28 (4th Cir.), cert. denied, 439 U.S. 934 (1978). The factors are: (1) time and labor expended; (2) novelty and difficulty of the questions raised; (3) the skill required to properly perform the legal services rendered; (4) the attorneys' opportunity cost in pressing the litigation; (5) the customary fee for like work; (6) attorneys' expectation at the outset of the litigation; (7) time litigations imposed by client or the circumstances of the case; (8) amount in controversy and the results obtained; (9) the experience, reputation and ability of the attorneys; (10) the undesirability of the case within the legal community; (11) nature and length of professional relationship between the attorney and client; and (12) attorneys' fees awarded in similar cases. In this case, only factors 1-3, 5, 7-9, and 12 are applicable.

In this case, the Court finds that it cannot with any real accuracy separate out work that was done as to SRFG and work that was done as to other defendants. Indeed, it would be unfair to SRFG for the Court to impose on it the attorneys' fees attributable to work directed to the other defendants, all of whom settled in full except for the BluBlocker defendants who settled as to the three Jotansen patents and later prevailed on a motion for summary judgment of noninfringement as to the fourth patent. Apparently none of the settling defendants were required to pay their portion of the plaintiffs' attorneys' fees and costs.

With this litigation scenario in mind, the Court will assess the amount of attorneys' fees and costs to which it finds the plaintiffs are entitled. Plaintiffs assert that three attorneys took primary responsibility for the case: (1) Mr. Schifley, who worked 781 hours and whose normal rates are \$280/hour; (2) Mr. Meece, who worked 2053.65 hours and whose normal rates are \$180/hour; and (3) Mr. Johnson, who worked 841.85 hours and whose normal rates are \$235/hour. The total number of hours billed by the law firm for work on the entire lawsuit is 7150.95.

The Court finds that the hourly rates charged by the various attorneys are reasonable in view of their levels of experience and in light of commensurate fees charged in Northern Virginia for similarly qualified counsel. (Factor 12). Patent law is a specialized area and requires special expertise; therefore, hourly rates are somewhat higher than those of general practitioners. (Factors 3, 5, and 9).

The Court, however, finds the plaintiffs' various approaches to hours unreasonable. Indeed, if the Court awarded plaintiffs are fees sought for the work of these three attorneys, the amount of that award would be \$786,171.75. The Court finds this amount to be excessive because it does not reflect the fact that SRFG was only one of the many defendants named in this action. Indeed, other defendants, and in particular the BluBlocker defendants, took the lead during the discovery and summary judgment phases of this litigation. In fact, the Court granted summary judgment in favor of the BluBlocker defendants, and all other defendants except for SRFG settled; therefore, it would not be appropriate to compensate the plaintiffs for the fees incurred for work directed at those other defendants, especially because SRFG did not even have counsel throughout much of the pendency of this litigation and because they did not take an aggressive approach to the litigation, demanded minimum attention. (Factor 7).

Nevertheless, after the February 13, 1998, grant of summary judgment in favor of the BluBlocker defendants, the only remaining defendant was SRFG. Plaintiffs assert that the total amount of fees and costs incurred after February 13, 1998, through the trial is \$164,051.25, and because SRFG was the only remaining defendant throughout that period, 100% of those costs are attributable to SRFG. Rather than trying to apportion a percentage of pre-February 13, 1998, billings to SRFG and then to evaluate all post-February 13, 1998, billings for factors for which the Court usually does not award fees, such as two attorneys conferring, the court will award all of the post-February 13, 1998, fees that represent work done by the three lead counsel and none of the pre-February 13, 1998, fees.

The Court limits plaintiffs' award to that portion that represents the work of the three lead counsel because plaintiffs' counsel submitted redacted records in support of the petition, making it impossible for the Court to determine what work was actually done and by whom. Accordingly, the Court will reduce the \$164,051.25 amount to \$130,643.75. The Court comes to this figure by multiplying the hours that the three lead attorneys worked, for the period after February 13, 1998, through the trial, by each attorney's hourly rate. The numbers used are as follows: (1) Schifley: 185 hours at \$280/hour (\$51,800.00); (2) Meece: 286.25 hours at \$180/hour (\$51,525.00); (3) Johnson: 116.25 at \$235/hour (\$27,318.75). Thus, the three lead counsel billed 587.5 hours for a total of \$130,643.75, which is approxi-

nately 80% of the total amount sought for that period.

[6] A total award of \$130,643.75 for attorneys' fees is appropriate in this case in light of the *Kimbrell's* factors that apply. Preparation for the trial with respect to this particular defendant involved several pre-trial motions, several raising complex factual questions, and the fast pace of this docket required an intense dedication of attorney time to the litigation. (Factors 1, 2 and 7). Moreover, the Court notes that plaintiffs' counsel took the case on a contingent fee basis, which means that given the amount of the judgment, they will be made whole for all work expended in this case. We also point out that the actual trial was relatively short, partly as a result of the defendant's having so little evidence to present. Finally, in light of the damages awarded, \$130,643.75 is not an unreasonably high attorneys' fee. (Factor 8 and 12).

With respect to costs, the Court finds it appropriate, for the same reasons discussed above, to award the plaintiffs the total amounts reflected only on the law firm's invoices dated March 26, 1998 (\$37,612.84) and April 9, 1998 (\$17,309.51), for a total award of \$54,922.35. This amount includes all costs incurred from February 23, 1998, to April 9, 1998.

IV. Conclusion

For the reasons stated in open court and in this Memorandum Opinion, BRFG's Motion for Declaration of Mistrial and Motion for a JNOV or in the Alternative a New Trial will be denied. In addition, plaintiffs' Motion of Trebled Damages and Attorneys' Fees will be denied as to the trebled damages and granted as to the attorneys' fees and costs, and the Court will award plaintiffs \$130,643.75 in attorneys' fees and \$54,922.25 in costs. An appropriate order will issue.

The Clerk is directed to forward copies of this Memorandum Opinion to counsel of record.

ORDER

For the reasons stated in an accompanying Memorandum Opinion, SRFG's Motion for Declaration of Mistrial and Motion for a JNOV or in the Alternative a New Trial are DENIED, and plaintiffs' Motion for Trebled Damages and Attorneys' Fees is GRANTED IN PART as to attorneys' fees and costs and DENIED as to trebled damages, and it is hereby

ORDERED that plaintiffs be and are awarded \$130,643.75 in attorneys' fees and

\$54,922.35 in costs, for a total award of \$185,566.10.

The Clerk is directed to forward copies of this Order to counsel of record.

U.S. Court of Appeals
Federal Circuit

In re Rouffet

No. 97-1492

Decided July 13, 1998

PATENTS

1. Patentability/Validity — Obviousness — Combining references (§115.0905)

Claimed low orbit satellite communications system for mobile terminals, which addresses problem of minimizing "handover" of receiver from beam footprint of one transmitting satellite to that of another through use of multiple fan-shaped beams, is not *prima facie* obvious over combination of three prior art references, since critical reference that teaches use of fan-shaped beam to transmit from ground station to orbiting satellites does not specifically address handover minimization, and to extent it addresses handover problem at all, does so with orbit selection rather than beam shape, and since there is no reason one of ordinary skill in art, seeking to minimize handovers due to satellite motion, would have been motivated to combine this reference with remaining references in manner that would render claimed invention obvious.

2. Patentability/Validity — Obviousness — Person of ordinary skill in art (§115.0902)

Patentability/Validity — Obviousness — Combining references (§115.0905)

Three possible sources for motivation to combine prior art references in manner that would render claimed invention obvious are nature of problem to be solved, teachings of prior art, and knowledge of persons of ordinary skill in art; high level of skill in field of art cannot be relied upon to provide necessary motivation absent explanation of what specific understanding or technical principle, within knowledge one of ordinary skill in art, would have suggested combination, since, if such rote invocation could suffice to supply motivation to combine, more sophisticated scientific fields would rarely, if ever, experience patentable technical advance.

3. Patentability/Validity — Obviousness — Person of ordinary skill in art (§115.0902)

Patentability/Validity — Obviousness — Combining references (§115.0905)

Claimed low orbit satellite communications system for mobile terminals is not *prima facie* obvious over combination of two prior art references, even though person possessing high level of skill characteristic of this field would know to account for differences between claimed invention and prior art combination, since high level of skill in art, without more, cannot supply required motivation to combine references, and does not overcome absence of any actual suggestion to combine; obviousness rejection will not be upheld, even where skill in art is high, absent specific identification of principle, known to one of ordinary skill, that suggests claimed combination.

Appeal from the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences.

Patent application of Denis Rouffet, Yannick Tanguy, and Frédéric Berthault, serial no. 07/888,791, filed May 27, 1992. From decision upholding examiner's final rejection of application as obvious under 35 USC 103(a), applicants appeal. Reversed.

Richard C. Turner and Grant K. Rowan, of Sughrue, Mion, Zinn, Macpeak & Seas, Washington, D.C., for appellants.

David J. Ball Jr., associate solicitor, Nancy J. Linck, solicitor, Albin F. Drost, deputy solicitor, Craig R. Kaufman, associate solicitor, and Scott A. Chambers, associate solicitor, U.S. Patent and Trademark Office, Arlington, Va., for appellee.

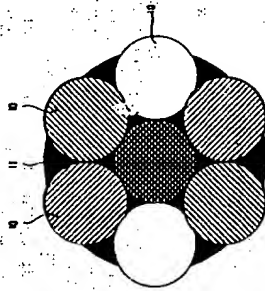
Before Plager, circuit judge, Archer, senior circuit judge, and Rader, circuit judge.

Rader, J.

Denis Rouffet, Yannick Tanguy, and Frédéric Berthault (collectively, Rouffet) submitted application 07/888,791 (the application) on May 27, 1992. The Board of Patent Appeals and Interferences (the Board) affirmed final rejection of the application as obvious under 35 U.S.C. § 103(a). See *Ex parte Rouffet*, No. 96-1553 (Bd. Pat. App. & Int. Apr. 16, 1997). Because the Board reversibly erred in identifying a motivation to combine the references, this court reverses.

Satellites in a geosynchronous or geostationary orbit remain over the same point on the Earth's surface. Their constant position above the Earth's surface facilitates communications. These satellites project a number of beams to the Earth. Each beam transmits to its area of coverage, or footprint, on the Earth's surface. In order to provide complete coverage, adjacent footprints overlap slightly and therefore must use different frequencies to avoid interference. However, two or more non-overlapping footprints can use the same set of frequencies in order to use efficiently the limited radio spectrum. Figure 1 from the application shows the coverage of a portion of the Earth's surface provided by multiple cone-shaped beams:

FIG. 1

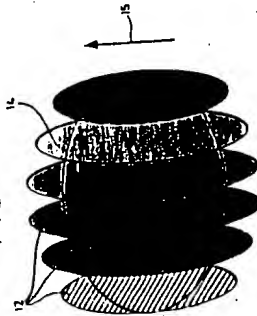


Frequency reuse techniques, however, have a limited ability to compensate for congestion in geostationary orbits. To alleviate the orbit congestion problem, new telecommunications systems use a network of satellites in low Earth orbit. When viewed from a fixed point on the Earth's surface, such satellites do not remain stationary but move overhead. A satellite's motion as it transmits a plurality of cone-shaped beams creates a new problem. The satellite's movement causes a receiver on the Earth's surface to move from the footprint of one beam into a second beam transmitted by the same satellite. Eventually, the satellite's motion causes the receiver to move from the footprint of a beam transmitted by one satellite into the footprint of a beam transmitted by a second satellite. Each switch from one footprint to another creates a "handover" event analogous to that which occurs when a traditional cellular phone travels from one cell to another. Handovers are undesirable because

they can cause interruptions in signal transmission and reception.

Rouffet's application discloses technology to reduce the number of handovers between beams transmitted by the same satellite. In particular, Rouffet eliminates handovers caused solely by the satellite's motion. To accomplish this goal, Rouffet changes the shape of the beam transmitted by the satellite's antenna. Rouffet's satellites transmit fan-shaped beams. A fan beam has an elliptical footprint. Rouffet aligns the long axis of his beams parallel to the direction of the satellite's motion across the Earth's surface. By elongating the beam's footprint in the direction of satellite travel, Rouffet's invention ensures that a fixed point on the Earth's surface likely will remain within a single footprint until it is necessary to switch to another satellite. Because Rouffet's invention does not address handovers caused by the motion of the receiver across the Earth's surface, his arrangement reduces, but does not eliminate, handovers. Figure 3 from the application shows the footprints 12 from six beams aligned in the direction of satellite motion 15:

FIG. 3



The application contains ten claims that stand or fall as a group. Claim 1 is representative:

A low orbit satellite communications system for mobile terminals, wherein the communications antenna system of each satellite provides isoflux coverage made up of a plurality of fan beams that are elongate in the travel direction of the satellite. The examiner initially rejected Rouffet's claims as unpatentable over U.S. Pat. No. 5,199,672 (King) in view of U.S. Pat. No. 4,872,015 (Rosen) and a conference report entitled "A Novel Non-Geostationary Satellite Communications System," *Conference Record, International Conference on Communications*, 1981 (Ruddy). On appeal to the Board, the examiner added an alterna-

tive ground for rejection, holding that the claims were obvious over U.S. Pat. No. 5,394,561 (Freeburg) in view of U.S. Pat. No. 5,170,485 (Levine).

On April 16, 1997, the Board issued its decision. Because Rouffet had specified that the claims would stand or fall as a group based on the patentability of claim 1, the Board limited its opinion to that claim. The Board unanimously determined that the examiner had properly rejected claim 1 as obvious over King in view of Rosen and Ruddy. The Board, on a split vote, also affirmed the rejection over Freeburg in view of Levine.

II

To reject claims in an application under section 103, an examiner must show an un rebutted *prima facie* case of obviousness. See *In re Deuel*, 51 F.3d 1552, 1557, 34 USPQ2d 1210, 1214 (Fed. Cir. 1995). In the absence of a proper *prima facie* case of obviousness, an applicant who complies with the other statutory requirements is entitled to a patent. See *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). On appeal to the Board, an applicant can overcome a rejection by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness. See *id.*

While this court reviews the Board's determination in light of the entire record, an applicant may specifically challenge an obviousness rejection by showing that the Board reached an incorrect conclusion of obviousness or that the Board based its obviousness determination on incorrect factual predicates. This court reviews the ultimate determination of obviousness as a question of law. See *In re Lueders*, 111 F.3d 1569, 1571, 42 USPQ2d 1481, 1482 (Fed. Cir. 1997). The factual predicates underlying an obviousness determination include the scope and content of the prior art, the differences between the prior art and the claimed invention, and the level of ordinary skill in the art. See *Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH*, 139 F.3d 877, 881, 45 USPQ2d 1977, 1981 (Fed. Cir. 1998). This court reviews the Board's factual findings for clear error. See *In re Zurko*, 142 F.3d 1447, 1449, 46 USPQ2d 1691, 1693 (Fed. Cir. 1998) (in banc); *Lueders*, 111 F.3d at 1571-72. "A finding is clearly erroneous when, although there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed." *In re Graves*, 69 F.3d 1147, 1151, 36 USPQ2d

1697, 1700 (Fed. Cir. 1995) (quoting *United States v. United States Gypsum Co.*, 333 U.S. 364, 395 [76 USPQ 430] (1948)).

The secondary considerations are also essential components of the obviousness determination. See *In re Emert*, 124 F.3d 1458, 1462, 44 USPQ2d 1149, 1153 (Fed. Cir. 1997) ("Without Emert providing rebuttal evidence, this *prima facie* case of obviousness must stand."). This objective evidence of nonobviousness includes copying, long felt but unsolved need, failure of others, see *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 [148 USPQ 459] (1966), commercial success, see *In re Huang*, 100 F.3d 135, 139-40, 40 USPQ2d 1685, 1689-90 (Fed. Cir. 1996), unexpected results created by the claimed invention, unexpected properties of the claimed invention, see *In re Mayne*, 104 F.3d 1339, 1342, 41 USPQ2d 1451, 1454 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), licenses showing industry respect for the invention, see *Arkie Lures, Inc. v. Gene Larrew Tackle, Inc.*, 119 F.3d 953, 957, 43 USPQ2d 1294, 1297 (Fed. Cir. 1997); *Pentec, Inc. v. Graphic Controls Corp.*, 776 F.2d 309, 316, 227 USPQ 766, 771 (Fed. Cir. 1985), and skepticism of skilled artisans before the invention, see *In re Dow Chem. Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1532 (Fed. Cir. 1988). The Board must consider all of the applicant's evidence. See *Oetiker*, 977 F.2d at 1445 ("An observation by the Board that the examiner made a *prima facie* case is not improper, as long as the ultimate determination of patentability is made on the entire record."); *In re Plazekki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). The court reviews factual conclusions drawn from this evidence for clear error. Whether the evidence presented suffices to rebut the *prima facie* case is part of the ultimate conclusion of obviousness and is therefore a question of law.

When a rejection depends on a combination of prior art references, there must be some teaching, suggestion, or motivation to combine the references. See *In re Geiger*, 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987). Although the suggestion to combine references may flow from the nature of the problem, see *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996), the suggestion more often comes from the teachings of the pertinent references, see *In re Sernaker*, 702 F.2d 989, 994, 217 USPQ 1, 5 (Fed. Cir. 1983), or from the ordinary knowledge of those skilled in the art that certain references are of special importance in a particular field, see *Pro-Mold*, 75

eters and spacing of multiple satellites to ensure that a satellite is always in the loop to receive and rebroadcast signals from the Earth station.

King and Rosen together teach the use of a network of satellites in low Earth orbit. Thus, Ruddy becomes the piece of the prior art mosaic that shows, in the reading of the Board, the use of "a plurality of fan beams that are elongate in the travel direction of the satellite." Ruddy, however, is different from the claimed invention in several respects. Specifically, the application claims the projection of multiple elliptical fan-shaped footprints from the satellite to the ground. See Claim 1, *supra*, see also Application at 6, lines 9-11 ("In addition, in this system, the geometrical shape of the beams 12 is changed: instead of being circular they are now elongate ellipses."). The application's written description further teaches that the invention's fan-shaped satellite beams will minimize handovers. See *id.* at lines 11-16 ("This considerably increases call durations between handovers.")

In contrast, Ruddy teaches that a ground station may use a single fan-shaped beam to transmit to a satellite in a unique Molniya orbit. The ground station transmits a beam into which a series of satellites in Molniya orbits will successively enter. At least two differences are evident: the application teaches projection of multiple beams from a satellite to the Earth, while Ruddy teaches projection of a single beam from the Earth to satellites. Moreover, to the extent Ruddy contains a teaching about handovers, its teachings focus on use of the unique Molniya orbit to ensure that a satellite always falls within the beam transmitted by the ground station.

These differences suggest some difficulty in showing a *prima facie* case of obviousness. The Board, however, specifically found that artisans of ordinary skill in this field of art would know to shift the frame of reference from a ground station following a satellite to a satellite transmitting to the ground. According proper deference to the Board's finding of a lofty skill level for ordinary artisans in this field, this court discerns no clear error in the Board's conclusion that these differences would not preclude a finding of obviousness. While Ruddy does not expressly teach alignment of the fan beam with the apparent direction of the satellite's motion, this court perceives no clear error in the Board's determination that Ruddy would suggest such an alignment to one of skill in this art. Therefore, the Board did not err in finding that the combination of King, Rosen, and Ruddy contains all of the elements claimed in Rouffet's application.

[1] However, the Board reversibly erred in determining that one of skill in the art would have been motivated to combine these references in a manner that rendered the claimed invention obvious. Indeed, the Board did not identify any motivation to choose these references for combination. Ruddy does not specifically address handover minimization. To the extent that Ruddy at all addresses handovers due to satellite motion, it addresses this subject through the selection of orbital parameters. Ruddy does not teach the choice of a particular shape and alignment of the beam projected by the satellite. Thus Ruddy addresses the handover problem with an orbit selection, not a beam shape. The Board provides no reasons that one of ordinary skill in this art, seeking to minimize handovers due to satellite motion, would combine Ruddy with Rosen and King in a manner that would render the claimed invention obvious. Obviousness is determined from the vantage point of a hypothetical person having ordinary skill in the art to which the patent pertains. See 35 U.S.C. § 103(a). This legal construct is akin to the "reasonable person" used as a reference in negligence determinations. The legal construct also presumes that all prior art references in the field of the invention are available to this hypothetical skilled artisan. See *In re Carlson*, 983 F.2d 1032, 1038, 25 USPQ2d 1207, 1211 (Fed. Cir. 1993).

As this court has stated, "[v]irtually all [inventions] are combinations of old elements." *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 698, 218 USPQ 865, 870 (Fed. Cir. 1983); see also *Richdel, Inc. v. Sunspool Corp.*, 714 F.2d 1573, 1579-80, 219 USPQ 8, 12 (Fed. Cir. 1983) ("Most, if not all, inventions are combinations and mostly of old elements."). Therefore an examiner may often find every element of a claimed invention in the prior art. If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue. Furthermore, rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be "an illogical and inappropriate process by which to determine patentability." *Sensonic, Inc. v. Aerosonic Corp.*, 81 F.3d 1566, 1570, 38 USPQ2d 1551, 1554 (Fed. Cir. 1996).

To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to

show a motivation to combine the references that create the case of obviousness. In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed.

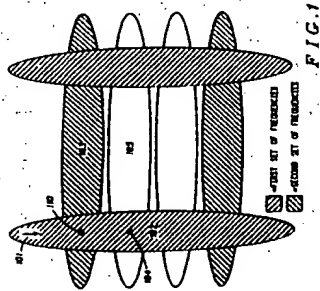
[2] This court has identified three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. In this case, the Board relied upon none of these. Rather, just as it relied on the high level of skill in the art to overcome the differences between the claimed invention and the selected elements in the references, it relied upon the high level of skill in the art to provide the necessary motivation. The Board did not, however, explain what specific understanding or technological principle within the knowledge of one of ordinary skill in the art would have suggested the combination. Instead, the Board merely invoked the high level of skill in the field of art. If such a rote invocation could suffice to supply a motivation to combine, the more sophisticated scientific fields would rarely, if ever, experience a patentable technical advance. Instead, in complex scientific fields, the Board could routinely identify the prior art elements in an application, invoke the lofty level of skill, and rest its case for rejection. To counter this potential weakness in the obviousness construct, the suggestion to combine requirement stands as a critical safeguard against hindsight analysis and rote application of the legal test for obviousness.

Because the Board did not explain the specific understanding or principle within the knowledge of a skilled artisan that would motivate one with no knowledge of Rouffet's invention to make the combination, this court infers that the examiner selected these references with the assistance of hindsight. This court forbids the use of hindsight in the selection of references that comprise the case of obviousness. See *In re Gorman*, 933 F.2d 982, 986, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991). Lacking a motivation to combine references, the Board did not show a proper *prima facie* case of obviousness. This court reverses the rejection over the combination of King, Rosen, and Ruddy.

The Combination of Freeburg and Levine

Freeburg teaches a cellular radiotelephone system based on a constellation of low Earth orbit satellites that use conical beams

to transmit from the satellite to both fixed and mobile Earth stations. Levine teaches an Earth-based cellular radio system that uses fan beams broadcast from antenna towers. Levine's elliptical footprints are aligned with the road grid. To increase the capacity of traditional ground-based systems through frequency reuse techniques, Levine teaches the use of antennas that broadcast signals with smaller footprints than the prior art system. Thus, Levine actually increases the number of overlap regions between cells and, hence, the number of potential handovers. Figure 1 of the Levine patent illustrates its alignment of beam footprints:



As a mobile unit (e.g., a driver using a car phone) moves through a succession of overlapping zones, Levine uses selection algorithms to determine which of the cells is aligned with the travel direction of the mobile unit. These algorithms then select this cell for use while continually monitoring intersecting cells in the event that the mobile unit changes direction.

Once again, this court notes significant differences between the teachings of the application and the Levine-Freeburg combination. The critical Levine reference again involves a beam from an Earth station without any reference to the "travel direction of [a] satellite." Moreover, Levine actually multiplies the number of potential handovers and then uses software to sort out the necessary handovers from the unnecessary. However, the Board explains the reasons that one possessing the lofty skills characteristic of this field would know to account for the differences between the claimed invention and the prior art combination. This court discerns no clear error in that reliance on the considerable skills in this field.

[3] This court does, however, discern reversible error in the Board's identification of a motivation to combine Levine and Freeburg. In determining that one of skill in the art would have had motivation to combine Levine and Freeburg, the Board noted that "[t]he level of skill in the art is very high."

COSTS

Each party shall bear its own costs.

REVERSED.

U.S. Court of Appeals
Federal Circuit

Champagne Louis Roederer S.A. v. Delicato Vineyards

No. 98-1032

Decided July 16, 1998

TRADEMARKS AND UNFAIR TRADE PRACTICES

1. Infringement; conflicts between marks — Likelihood of confusion — Particular marks — Confusion not likely (§335.0304.05)

Infringement; conflicts between marks — Tests generally (§335.06)

Trademark Trial and Appeal Board did not err in dismissing opposition proceeding on ground that applicant's "Crystal Creek" mark for wine and opposer's "Crystal" marks for champagne are dissimilar with respect to appearance, sound, significance, and commercial impression, since board did not err in relying solely on dissimilarity of marks in evaluating likelihood of confusion, since single factor may be dispositive in likelihood of confusion analysis, especially when that factor is dissimilarity of marks, and since no instances of clear error regarding board's findings of fact as to dissimilarities of marks have been demonstrated.

IV

Appeal from the U.S. Patent and Trademark Office, Trademark Trial and Appeal Board.

Proceeding (Opposition No. 80,932) brought by Champagne Louis Roederer S.A. in opposition to application filed by Delicato Vineyards to register mark "Crystal Creek" for wine. From dismissal of opposition proceeding, opposer appeals. Affirmed. Michel, J., concurring in separate opinion.

As noted above, the suggestion to combine

requirement is a safeguard against the use of hindsight combinations to negate patentability. While the skill level is a component of the inquiry for a suggestion to combine, a lofty level of skill alone does not suffice to supply a motivation to combine. Otherwise a high level of ordinary skill in an art field would almost always preclude patentable inventions. As this court has often noted, invention itself is the process of combining prior art in a nonobvious manner. See, e.g., *Richdel*, 714 F.2d at 1579; *Environmental Designs*, 713 F.2d at 698. Therefore, even when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination. Cf. *Gechter v. Davidson*, 116 F.3d 1454, 43 USPQ2d 1030 (Fed. Cir. 1997) (explaining that the Board's opinion must describe the basis for its decision). In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious.

The Board's naked invocation of skill in the art to supply a suggestion to combine the references cited in this case is therefore clearly erroneous. Absent any proper motivation to combine part of Levine's teachings with Freeburg's satellite system, the rejection of Rouffet's claim over these references was improper and is reversed.

The Board reversibly erred in determining that there was a motivation to combine either the teachings of King, Rosen, and Ruddy or of Freeburg and Levine in a manner that would render the claimed invention obvious. Because this predicate was missing in each case, the Board did not properly show that these references render the claimed invention obvious. Therefore this court re-

THE PUBLIC INTEREST

The final factor to consider when assessing the desirability of injunctive relief is the public policy concerns weigh in favor of preliminary injunctive relief in order to halt confusion in the marketplace. *Worthington Foods, Inc.*, 732 F.Supp. 1463. In the present case, confusion has been shown to exist regarding the Defendants' use of the words "Moondog Coronation Ball." Omni-America has logged numerous telephone calls from its radio listeners who are confused as to who is conducting the "Moondog Coronation Ball." (See Exhibit Q) It has also received letters and facsimiles from listeners who are confused as to who is conducting the "Moondog Coronation Ball." (See Exhibits I, Y and Z).

This Court finds that Omni-America has shown a likelihood of confusion. Thus, this Court finds that injunctive relief would be in the public's best interest.

The Court has adopted in part the Findings of Fact and Conclusion of Law submitted by Plaintiff.

FINDINGS OF FACT

Plaintiff, Omni-America holds a certificate of registration for Moondog Coronation Ball II that was issued in 1986.

Omni-America acquired the registration for Moondog Coronation Ball II through assignment.

The first Moondog Coronation Ball was held in 1952 in Cleveland and is reputed to be the first rock and roll concert.

The name Moondog Coronation Ball was not used by anyone in connection with a concert or other event until 1986.

In 1986, the radio station WMMS-FM decided to hold a concert to rally support for bringing the Rock and Roll Hall of Fame to Cleveland.

John Gorman, who worked at WMMS-FM at that time, conceived the idea to call the concert the Moondog Coronation Ball and feature some performers from the oldies rock era.

WMMS-FM was owned by Malrite Communications in 1986 and that Malrite registered the name Moondog Coronation Ball II as a service mark with the Ohio Secretary of State in order to protect their rights to the Mark.

WMMS-FM had plans to hold the next Moondog Coronation Ball when the Rock and Roll Hall of Fame was opened in Cleveland.

The next concert called the Moondog Coronation Ball was held on March 23, 1992. The concert was to commemorate the 40th anniversary of the original concert and was promoted through WMJI-FM.

Canterbury agreed to produce the concert for WMJI and the parties entered into a contract for the production of the Moondog Coronation Ball.

WMJI-FM promoted and hosted the concert. Canterbury contracted with the artist, sold tickets, and collected the proceeds from the ticket sales. Both WMJI-FM and Canterbury were active in choosing the talent for the show and deciding the logistics for the show.

WMJI-FM held the Moondog Coronation Ball again in 1993, 1994, and 1995. Canterbury was the production company each of those years.

WMJI-FM was using the Mark Moondog Coronation Ball with the consent and approval of the owner of the registration for the Mark.

Omni-America acquired WMJI-FM in 1994, around the same time that it acquired the assignment of the registration for the Mark.

In 1996, Canterbury knew that Omni-America owned the registration for Moondog Coronation Ball II.

Canterbury and WDOK-FM/WRMR-AM are using the service mark Moondog Coronation Ball in connection with an oldies concert scheduled to take place in Cleveland on March 23, 1996.

Numerous individuals have called WMJI-FM and expressed confusion over the origin and sponsorship of the concert scheduled for March 23, 1996.

CONCLUSION

The Rights to the service mark are acquired through use. A registration is evidence that the registrant had first use of the Mark; the registrant asserts exclusive rights to the service mark; and, the registrant has put the public on notice of its assertion of exclusive rights to the service mark. In the present case, Omni-America holds a fanciful service mark. This is a strong service mark. Encroachment on a strong service mark tends to produce the greatest likelihood of confusion. An intentional use of a fanciful service mark for an identical service in the same market area, combined with actual confusion, establishes likelihood of confusion.

In the case at bar, the likelihood of confusion with the service mark Moondog Coronation

will be held at a later date to be determined by this Court.

IT IS SO ORDERED.

U.S. Court of Appeals
Federal Circuit

Sensonics Inc. v. Aerosonic Corp.

Nos. 95-1058, -1062, -1098

Decided April 24, 1996

PATENTS

1. Patentability/Validity — Obviousness — Combining references (§115.0905)

Claimed vibrator for aircraft instruments is not obvious in view of prior art references considered alone or in combination, since there is no teaching or suggestion whereby person of ordinary skill in art would have been led to select particular mechanical and electrical structures and concepts and combine them as did inventor, and since drawing on hindsight knowledge of patented invention, when prior art does not contain or suggest that knowledge, is improper use of invention as template for its own reconstruction.

2. Infringement — Defenses — Fraud or unclean hands (§120.1111)

Failure to disclose inventor's prior patent during prosecution of patent in suit did not constitute inequitable conduct, since defendant's failure to mention prior patent in its request for re-examination of patent in suit weighs heavily against its contention that prior patent was material prior art, and since there is no evidence of culpable intent.

3. Infringement — Willful (§120.16)

Federal district court did not clearly err by concluding that defendants did not willfully infringe vibrator patent in suit, even though opinion of defendants' counsel does not mention defendants' copying and other objective indicia of unobviousness, and infringement continued even after validity of patent was confirmed on re-examination, since issue of willfulness raises questions of credibility as well as weight, and findings thereon are not readily reversed, and since infringement occurred four months prior to patent's expiration.

tion Ball may result in irreparable harm for purposes of entitlement to a Preliminary Injunction. The potential harm to the apparent infringer, the Defendants, does not weigh against the granting of injunctive relief. Further, the public interest is served by a Preliminary Injunction that prevents consumer confusion. By promoting a concert in Ohio using Moondog Coronation Ball, the Defendants have used Plaintiff's service mark without Plaintiff's permission in a way that is infringing Plaintiff's rights in the service mark. Therefore, Omni-America is entitled to a Preliminary Injunction.

IT IS THEREFORE ORDERED that the Defendants Street Gold Records, Ltd. dba Canterbury Productions/Farag Music BMI, the Moondog Coronation Ball Corp., and Independent Group Limited Partnership, their agents, and any other persons associated with or acting in concert with them, including but not limited to, Henry Farag and Canterbury Productions, Inc., be and hereby are restrained and enjoined from using the service mark "Moondog Coronation Ball" or any similar service mark in connection with any concert or other event. Use of a Mark that includes the words "Moondog" and "Coronation" in connection with a concert or other event will be considered to be use of a similar mark.

Specifically, Defendants, their agents, and any other persons associated with or acting in concert with them, including, but not limited to Mr. Henry Farag, Mr. Omar Farag, and Canterbury Productions, Inc. are enjoined from:

- 1) selling, issuing, or releasing any tickets bearing the service mark Moondog Coronation Ball or any similar mark;
- 2) issuing any written or oral promotion of the concert scheduled for March 23, 1996, or any other concert or event produced by Defendants, using the service mark Moondog Coronation Ball or any similar service mark;
- 3) making any representations that the concert scheduled for March 23, 1996, or any other concert or event produced by Defendants, is the Moondog Coronation Ball.

CONCLUSION

Based upon the foregoing reasons, Plaintiff, Omni-America's Motion for a Preliminary Injunction is GRANTED. All matters pertaining to damages, and any issues relating to the expiration of the service mark that expires on March 10, 1996, will be addressed at the Permanent Injunction Hearing which

PATIENTS.

4. Monetary — Damages — Patents —
Lost profits (§510.0507.05)

Infringement defendant's failure to retain production records during litigation gives rise to strong inference that such records would have been unfavorable to defendant, since it is not necessary to establish bad faith in order to draw adverse inference from "purposeful" action, and since it is appropriate that doubt be resolved against defendant in view of clear duty to keep and preserve records of acts for which infringement had been charged; federal district court's determination that 7,347 infringing units had been produced by defendant, based on extrapolation from production records available for final six months of patent's term, represents best available reconstruction of infringing activity, but court's reduction of extrapolated production by 33 percent to account for device repair or inefficiency in production is not supported by evidence.

- 5. Monetary — Damages — Patents — Increased damages (§510.0507.07)**

Federal district court did not abuse its discretion by declining to award enhanced damages for patent infringement, since enhanced damages are punitive rather than compensatory, and depend on showing of willful infringement or other indicium of bad faith: warranting punitive damages, and since court's finding that infringement was not willful was not clear error.

- 6. Monetary — Damages — Prejudgment interest (\$510.0511)**

Prejudgment interest in patent cases is withheld only under exceptional circumstances, and denial of such award based on calculation difficulties alone is error; prejudgment interest award is therefore warranted in present patent action in which there is no circumstance that would make such award unfair or inappropriate.

7. Monetary — Attorneys' fees; costs —
Patents — Exceptional case
(\$510.0905.03)

Bad faith and willful infringement are not only criteria whereby case may be deemed "exceptional," since litigation misconduct and unprofessional behavior are relevant to award of attorneys' fees; remand of present case for determination of whether there was bad faith or vexatious behavior is therefore warranted, even though federal district court did not err in concluding that defendants did not willfully infringe.

PATIENTS.

- ## 8. Infringement — Inducement (§120.15)

REMEDIES

- Monetary — Damages — Personal liability of corporate officials (§510.0513)**

Federal district court properly concluded that individual defendant who was founder, owner, president, chief executive officer, and chief of engineering of infringing corporation is liable for inducement to infringe, and is jointly and severally liable for amount of judgment, since weight of evidence is strongly contrary to defendant's testimony that he was without authority to control or discontinue production of infringing device after becoming aware of plaintiff's patent rights, and since court therefore did not clearly err in determining that testimony was not credible.

Particular patents — Electrical — Tapping device

3,863,114, DeMayo, tapping device for generating periodic mechanical impulses, ruling that patent is enforceable, not invalid, and infringed is affirmed.

Appeal from the U.S. District Court for the Middle District of Florida, Merhige, J. Action by Sensonics Inc. against Acros-sonic Corp. and Herbert J. Frank for patent infringement. From ruling that patent claims are enforceable, not invalid, and in- fringed, and that defendant Herbert J. Frank is personally liable for inducing in- fringement, defendants appeal. Plaintiff cross-appeals measure of damages and deni- al of enhanced damages and attorneys' fees. Affirmed in part, modified and reversed in part, and remanded.

Daniel P. Burke, of Galgano & Burke,
Hauppauge, N.Y., for plaintiff/cross-
appellant.

Robert E. Greenstien, of Honigman, Miller, Schwartz & Cohn, West Palm Beach, Fla.; Anne E. Brookes, John T. Klug, Louis K. Bonham, and John G. Flaim, of Honigman, Miller, Schwartz & Cohn, Houston, Texas; Robert W. Boos and Kevin M. Gilhool, of Honigman, Miller, Schwartz & Cohn, Tampa, Fla., for defendant-appellant Aerosonic Corp.

Sybil Meloy, Lisa S. Mankofsky, and Patricia D. Granados, of Foley & Lardner, Washington, D.C., for defendant-appellant Herbert J. Frank.

Before Newman, circuit judge, Bennett, senior circuit judge, and Bryson, circuit judge.

Newman, J.

This consolidated appeal and cross-appeal of the United States Patent No. 3,863,114 (the '114 patent) owned by Sensonics, Inc. The defendants, Aeronic Corp. and Herbert J. Frank, each appeals certain aspects of the judgment of the United States District Court for the Middle District of Florida.¹ Aeronic appeals the district court's ruling that the '114 patent is valid and enforceable, and also appeals the ruling of infringement as to some of the patent claims but not as to others. Mr. Frank appeals the ruling that he is personally liable for inducement to infringe the Sensonics patent. Sensonics cross-appeals the measure of damages, and the district court's denial of enhanced damages and attorney fees.

THE PATENTED INVENTION

The '114 patent is for a "Tapping Device for Generating Periodic Mechanical Pulses," invented by John F. DeMayo. Mr. DeMayo is a founder and officer of Sensonics. The tapping device, also called a "vibrator" is used primarily with aircraft instruments having moving indicators. Mechanical pulses, that is, taps, gently vibrate the moving parts in order to free them of the effects of static friction, permitting the indicator to move freely and thus with greater accuracy and reliability. Such devices require accurate and reliable operation for extended periods of time and over wide temperature and voltage ranges. They require careful control of the strength of the vibration pulses in order to avoid causing errors in or requiring recalibration of the aircraft instrument.

The invention claimed in the '114 patent is an electromagnetic vibrator that is easier to manufacture, more accurate, easier to adjust, and less expensive than prior devices. Its structure of a unitary base with integrally formed anvil and armature support eliminates the welding and soldering steps of earlier devices, and also assured a true and consistent path for the magnetic flux. Another advantageous structural component is the adjustment element for the strength of the vibration pulses, in the form of a screw which extends through the armature to the magnetic core. The head of the screw provides the stop for the moving armature, and thus adjustment of the screw enables ready adjustment of the strength of the vibration pulses.

PATENT VALIDITY

Aerosonic raised the defense of patent invalidity based on obviousness in terms of 35 U.S.C. § 103. The principal prior art at issue was an earlier invention of Mr. Detmar Mayo, described in United States Patent No. 3,507,339 (the '339 patent). This patent was not cited as a reference during prosecution of the application that led to the '114 patent.

Mr. DeMayo testified that the '339 patent represented an earlier effort to make an improved mechanical vibrator. There was evidence that the '339 design had some advantages over prior devices, but that its shortcomings included manufacturing complexity, increased size, multiple components, difficulty of assembly, difficulty of adjustment, and too high a failure rate. Mr. DeMayo testified that he continued to work to solve these problems, and that after several additional years of effort he succeeded in doing so, with the vibrator that became the subject of the '114 patent. Although the '114 design and the '339 design have several similarities, there was evidence that the changes embodied in the '114 device achieved the simplicity and efficiency of manufacture, easy and accurate adjustment, compactness, quietness in operation, and reliability, that were inadequate in the '339 device.

The '339 device has a screw extending through the armature to the magnetic core. This screw is soldered into place in order to provide sufficient contact within the device to ensure magnetic flux, and is not usable to adjust the strength of the pulses. Although at trial Aerosonic argued that it was obvious to make the design change of an adjustable screw, the district court observed that this element of the '114 invention provided significant advantages and remedied deficiencies of prior devices. The pulse strength for the '339 device was only adjustable from below, and thus was not readily adjusted

¹ *Sensorics, Inc. v. Aerasonic Corp.*, Nos. 90-84-T-23A and 93-724-T-23A (M.D. Fla. Oct. 11 and Nov. 4, 1994).

after installation. In contrast, the '114 device could be readily adjusted not only during manufacture but also after assembly and after installation in the aircraft instrument. Although Aeroseonic points to the simplicity of this adjustment mechanism, simplicity does not establish obviousness; indeed, simplicity may represent a significant and prior obvious advance over the complexity of prior devices.

The district court referred to the factual underpinnings of the determination of obviousness as set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). Applying these criteria, the court discussed the testimony of Aeroseonic's expert witness concerning the prior art. In addition to the '339 patent, the references relied on by Aeroseonic were two patents on "telegaph-sounders" that were designed to make noise, a patent on a magnetically operated switch designed to absorb any shock created by contact of its armature and magnetic core, a patent on a relay for telephone lines to control secondary signals, and a patent for an automobile voltage regulator.

[1] The district court concluded that "[c]onsidered in their entirety, the references discussed by defendants' expert do not, in the court's view, lead one of ordinary skill in the art to the invention in suit." We agree that the references, alone or in combination, do not make obvious the '114 invention. There is no teaching or suggestion whereby a person of ordinary skill would have been led to select these mechanical and electrical structures and concepts and combine them as did DeMayo in the '114 invention. To draw on hindsight knowledge of the patented invention, when the prior art does not contain or suggest that knowledge, is to use the invention as a template for its own reconstruction — an illogical and inappropriate process by which to determine patentability. *W.L. Gore & Assoc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983). The invention must be viewed not after the blueprint has been drawn by the inventor, but as it would have been perceived in the state of the art that existed at the time the invention was made. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed. Cir. 1985).

The DeMayo '114 device was placed in commercial production by Sensonics. Aeroseonic purchased fifty of the Sensonics vibrators from Budd Electronics Corp. An Aeroseonic engineer testified that he was instructed by Mr. Frank to copy every detail of the Sensonics device, mentioning the number of turns of wire in the electromagnet and

the wire thickness, the tension of the spring, the posts supporting the armature, the unitary construction, the adjustable screw, etc. Mr. Frank and other employees of Aeroseonic testified that there were no acceptable substitutes in the industry for the DeMayo '114 vibrator design.

Patent invalidity must be proved by clear and convincing evidence. The differences from the prior art that were shown at trial, the inadequacies of prior vibrators including DeMayo's earlier '339 design, and the technological advantages and commercial success of the '114 invention, well support the district court's conclusion that invalidity based on obviousness had not been proved. The decision that the patent is valid is affirmed.

PATENT ENFORCEABILITY

Aeroseonic charged Sensonics with inequitable conduct before the Patent and Trademark Office because Sensonics did not bring to the attention of the patent examiner the DeMayo '339 patent. The district court held that the intent element of inequitable conduct had not been shown, and referred to the evidence presented at trial of Sensonics' good faith. The court also observed that Aeroseonic's own patent counsel did not initially notice the relevance of the '339 patent, and that the '339 patent was not cited by Aeroseonic in its reexamination request which was made during the litigation, and for which the litigation was stayed.

The district court found that Mr. DeMayo, who testified at trial, was not aware of a need to direct the examiner to the '339 patent. Mr. DeMayo also testified that he did not believe that the '339 patent was relevant to the '114 invention due to the differences and significant drawbacks in the '339 design; this testimony was supported by other evidence of the differences and drawbacks of the '339 and other prior devices.

[2] Aeroseonic presses the argument that Sensonics did not seek reexamination of the '114 patent in light of the '339 patent until after expiration of the '114 patent. The '114 patent expired during the litigation. The district court observed that Aeroseonic had earlier requested reexamination of the '114 patent, but that Aeroseonic did not mention the '339 patent in its reexamination papers. Indeed, Aeroseonic's omission of the '339 patent from its reexamination request weighs heavily against its argument that the '339 patent was material prior art.

The burden of proof of inequitable conduct was upon Aeroseonic. The factual predicates of both (1) a withholding of material

prior art and (2) the intent thereby to deceive or mislead the patent examiner into allowing the claims, must be shown by clear and convincing evidence. *Kingsdown Medical Consultants, Ltd. v. Hollister*, 863 F.2d 867, 872, 9 USPQ2d 1384, 1389 (Fed. Cir. 1988), cert. denied, 490 U.S. 1067 (1989). There was no evidence of culpable intent. The totality of the evidence, including the evidence of good faith, well supports the district court's finding that intent to deceive or mislead the examiner was not shown.

Absent reversible error in the district court's findings and conclusion, we affirm the decision that there was not inequitable conduct before the patent office and that the '114 patent is enforceable.

WILLFUL INFRINGEMENT

Aeroseonic stipulated that it infringed claims 2 and 7. The district court found that Aeroseonic also infringed claims 3, 8 and 11. Aeroseonic appeals this latter finding, advising that we need not reach claims 3, 8, and 11 should we sustain the validity of claims 2 or 7. Thus the only infringement issue is Sensonics' cross-appeal of the district court's finding that Aeroseonic's infringement was not willful.

Sensonics states that the court clearly erred in failing to find that the infringement was willful, referring to Aeroseonic's deliberate and meticulous copying of the Sensonics device, and Aeroseonic's delay of eight months before consulting patent counsel after it received written notice of infringement, as evidence that Aeroseonic willfully disregarded or did not intend to respect the law. The devices that Aeroseonic purchased from Budd Electronics and copied were all labelled with Sensonics' name. Sensonics states that the opinion of counsel that Aeroseonic produced at trial was "protective" and was not a complete analysis, and that Aeroseonic's continuing infringement after actual notice of Sensonics' patent was with knowledge and disregard of Sensonics' legal rights. Indeed, the opinion of counsel makes no mention of Aeroseonic's copying and other objective indicia of unobviousness, although precedent requires that these factors be considered. See *Stratoflex v. Aeroquip Corp.*, 713 F.2d 1530, 1539, 216 USPQ 871, 879 (Fed. Cir. 1983) (evidence of objective considerations must always be taken into account).

[3] Although the opinion of Aeroseonic's counsel is flawed, the issue of willfulness raises questions of credibility as well as weight, and findings thereon are not readily

DAMAGES

Sensonics appeals the district court's measure of damages, on the ground that the district court incorrectly assessed the number of infringing devices made by Aeroseonic.

The criteria for lost profits damages that are summarized in *Panduit Corp. v. Stahlman Bros. Fiber Works, Inc.*, 575 F.2d 1152, 197 USPQ 726 (6th Cir. 1978), were applied by the district court. The court found that Sensonics had proved (1) demand for the patented product, (2) Sensonics' ability to meet that demand, (3) the absence of acceptable non-infringing substitutes, and (4) the amount of lost profits per unit. The principal issue at trial was not any of these criteria, but the total number of devices that were made by Aeroseonic during the period between actual notice of infringement on September 14, 1989 and the expiration of the '114 patent on January 28, 1992.

This issue arose because Aeroseonic had apparently destroyed its manufacturing records after this litigation began. No manufacturing records were available for the relevant period except for a handwritten log book of serial numbers that covered the final six months preceding the expiration of the patent. This log commenced with number 21,267 in July 1991, after this suit had been pending for a year. It was the only remaining evidence of the number of devices manufactured. Aeroseonic argues that the burden of proof of damages is upon the patentee, and that since the number of devices manufactured could not be proved, the burden could not be met.

However, if actual damages can not be ascertained with precision because the evidence available from the infringer is inadequate, damages may be estimated on the best available evidence, taking cognizance of the reason for the inadequacy of proof and

resolving doubt against the infringer. See *Westinghouse Elec. & Mfg. Co.*, 225 U.S. 604, 620 (1912) (infringer bears the risk when precise calculation is not possible); *Kori Corp. v. Wilco Marsh Buggies and Draglines, Inc.*, 761 F.2d 649, 655, 225 USPQ 985, 989 (Fed. Cir.) ("Fundamental principles of justice require us to throw any risk of uncertainty upon the wrongdoer rather than upon the injured party") (citing *Story Parchment Co. v. Paterson Parchment Co.*, 282 U.S. 555, 563 (1931)), *cert. denied*, 474 U.S. 902 (1985).

When the calculation of damages is impeded by incomplete records of the infringer, adverse inferences are appropriately drawn. See *Lam v. Johns-Manville Corp.*, 718 F.2d 1056, 1065, 219 USPQ 670, 675 (Fed. Cir. 1983) (any adverse consequences rest upon the infringer when inability to ascertain lost profits is due to the infringer's failure to keep accurate or complete records). When manufacturing records were destroyed after the litigation commenced, strong inferences adverse to the infringer may be drawn. *Beatrice Foods Co. v. New England Printing and Lithographing Co.*, 899 F.2d 1171, 1176, 14 USPQ2d 1020, 1024 (Fed. Cir. 1990).

The district court found that the final six months' log was the only evidence of the number of devices manufactured. The log listed 1,037 vibrators to which serial numbers were given during the final six months of the life of the '114 patent. From this number the district court extrapolated back, assuming an equal rate of production over the previous three years, to a total of 7,347 units manufactured between the date notice of infringement was given to Aerosonic and the date of patent expiration. See *Beatrice Foods*, 899 F.2d at 1176, 14 USPQ2d at 1024 (damages appropriately measured by reconstruction when infringer had destroyed its invoices). Sensonics states that this extrapolation gives an unrealistically low figure because Aerosonic would reasonably be expected to have cut back on infringing production for the last few months of patent life, especially because this litigation was ongoing.

[4] Sensonics states that Aerosonic's failure to retain production records during the litigation period requires that strong adverse inferences be drawn. We agree that this circumstance gives rise to a strong inference that the records would have been unfavorable to Aerosonic. *Lam v. Johns-Manville*, 718 F.2d at 1065, 219 USPQ at 675. Indeed, as the court discussed in *Nation-Wide Check Corp. v. Forest Hills Distribs., Inc.*, 692 F.2d 214, 218 (1st Cir. 1982), it is not

necessary to establish bad faith in order to draw an adverse inference from "purposeful" action.

The adverse inference is based on two rationales, one evidentiary and one not. The evidentiary rationale is nothing more than the common sense observation that a party who has notice that a document is relevant to litigation and who proceeds to destroy the document is more likely to have been threatened by the document than is a party in the same position who does not destroy the document.

The other rationale for the inference has to do with its prophylactic and punitive effects. Allowing the trier of fact to draw the inference presumably deters parties from destroying relevant evidence before it can be introduced at trial.

(citing *2 Wigmore on Evidence* § 291, at 228 (Chadbourn rev. 1979)).

Aerosonic had the clear duty of keeping and preserving records of the acts for which infringement had been charged, and it is appropriate that doubt be resolved against Aerosonic. Although Aerosonic's actions warrant adverse inferences, Sensonics does not suggest an alternative to the extrapolation method adopted by the district court. Thus the district court's extrapolation represents the best available reconstruction of the infringing activity, and is sustained.

The district court then reduced the extrapolated production of 7,347 units by 33% "in order to account for any duplication resulting from device repair or inefficiency in production of the vibrators." Sensonics states that this reduction is unsupported by evidence, and contrary to the great weight of the evidence. We must agree. There was no evidence that device repair or production inefficiency was reflected in the log showing the serial number that was applied when the vibrator was ready for shipment or installation. Mr. Frank, who was the chief executive officer of Aerosonic during this period, testified that: "The serial number is put on the vibrator just before it is shipped, or before we put it into an indicator." On this procedure, any device repair or inefficiency in production would not be reflected in the serial number.

The Aerosonic log that was produced included repairs. It was the only record of repairs that was produced, and showed a repair rate of less than 0.4%, without a change of serial number for the repaired unit. Aerosonic did not establish that 33% or any other number of vibrators bore multiple serial numbers or were given new serial numbers after they were returned for repair. Further, if evidentiary imprecision is due to

inadequacy of the infringer's records, uncertainty is resolved against the wrongdoer. *Kori v. Wilco*, 761 F.2d at 655, 225 USPQ at 989; *Lam v. Johns-Manville*, 718 F.2d at 1065, 219 USPQ at 675.

Aerosonic states that damages are measured not by the number of devices manufactured but by the number of devices sold before patent expiration, arguing that there is no record evidence of when the devices listed on the serial number log were sold, but that they would have been sold mostly after patent expiration. The statement of law is incorrect. The patent statute grants the patentee the right to exclude others from making, using, or selling the patented subject matter. 35 U.S.C. § 271. Any of these activities during the patent term is an infringement of the patent right.

In the absence of any evidence that a significant number of the units to which a serial number was given were not separate manufactures, the district court's reduction of the total of 7,347 is clearly in error, and is reversed. Damages shall be paid on 7,347 units. The district court's decision is modified accordingly.

ENHANCEMENT OF DAMAGES

Sensonics states that the district court abused its discretion in declining to enhance damages in accordance with 35 U.S.C. § 284 ("the court may increase the damages up to three times the amount found or assessed"). The district court's decision with respect to the enhancement of damages will be sustained unless it was based on an incorrect conclusion of law, clearly erroneous findings of fact, or a clear error of judgment. *National Presto Industries, Inc. v. The West Bend Co.*, 76 F.3d 1185, 1193, 37 USPQ2d 1685, 1691 (Fed. Cir. 1996).

[5] Section 284 does not state the circumstances in which damages may be enhanced by the court. In *Yarway Corp. v. Eur-Conrol USA, Inc.*, 775 F.2d 268, 277, 227 USPQ 352, 358 (Fed. Cir. 1985) the court explained that "enhancement of damages must be premised on willful infringement or bad faith." See *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 628, 225 USPQ 634, 644 (Fed. Cir.), *cert. dismissed*, 474 U.S. 976 (1985) (absent willful infringement, enhanced damages are usually not warranted). As elaborated in *Beatrice Foods Co. v. New England Printing and Lithographing Co.*, 923 F.2d 1576, 1580, 17 USPQ2d 1553, 1556 (1991), enhanced damages are punitive, not compensatory. Enhancement is not a substitute for perceived

inadequacies in the calculation of actual damages, but depends on a showing of willful infringement or other indicium of bad faith warranting punitive damages.

The district court declined to enhance damages. Since we have affirmed the finding that the infringement was not willful, we conclude that the district court acted within its discretion in declining to enhance damages pursuant to § 284.

PREJUDGMENT INTEREST

[6] The district court denied prejudgment interest, referring to the difficulty of its calculation. It was established in *General Motors Corp. v. Devex Corp.*, 461 U.S. 648, 217 USPQ 1185 (1983) that prejudgment interest is the rule, not the exception. The Supreme Court explained that the denial of prejudgment interest simply creates an incentive to prolong litigation, and that prejudgment interest in patent cases is withheld only under exceptional circumstances. 461 U.S. at 656-57, 217 USPQ at 1189. In *Lummus Industries, Inc. v. D.M. & E. Corp.*, 862 F.2d 267, 274-75, 8 USPQ2d 1983, 1988 (Fed. Cir. 1988) the court held that "[t]o deny prejudgment interest based on calculation difficulties alone would be error."

We have been directed to no circumstance that would make it unfair or inappropriate to award prejudgment interest in this case. As stated in *General Motors v. Devex*, an award of prejudgment interest serves to make the patent owner whole, for damages properly include the foregone use of money of which the patentee was wrongly deprived. 461 U.S. at 655-56, 217 USPQ 1188. Sensonics has included in its appellate brief a reasonable methodology for calculation of prejudgment interest. Aerosonic has not challenged the rate or the arithmetic. The denial of prejudgment interest is reversed. On remand prejudgment interest, calculated in accordance with the Sensonics method, shall be awarded.

ATTORNEY FEES

The district court did not separate, in its analysis, the criteria for enhancement of damages and for the award of attorney fees. They are not necessarily the same, although the contributing factors often overlap.

[7] The award of attorney fees requires a threshold determination that this is an "exceptional case." 35 U.S.C. § 285. Bad faith and willful infringement are not the only criteria whereby a case may be deemed to be "exceptional," although when either is

present the requirement is more readily met. Litigation misconduct and unprofessional behavior are relevant to the award of attorney fees, and may suffice to make a case exceptional under § 285. *Spectra-Physics Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1537, 3 USPQ2d 1737, 1746 (Fed. Cir., cert. denied, 484 U.S. 954 (1987)). See *Klosier Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 1580, 230 USPQ 81, 91 (Fed. Cir. 1986) (bad faith in pretrial and trial stages, by counsel or party, may render the case exceptional under § 285).

The district court had declined to enhance damages, on the ground that the infringement was not willful. However, the district court did not discuss whether there were actions of bad faith sufficient to meet the criterion of "exceptional case" and to warrant the award of attorney fees. Sensonics points to Aerosonic's pre-litigation "false statement that it was not manufacturing the device but was simply reselling it, citing Mr. Frank's letter of September 21, 1989 to Sensonics' counsel." Sensonics states that this led it to sue Budd Electronics Corporation in the Eastern District of Pennsylvania. At trial Mr. Frank admitted that he ordered the copying and manufacture of the Sensonics device.

At his deposition Aerosonic employee Ronald Miller was testifying to similar effect when Aerosonic's attorney McDonald passed him a note stating "DID NOT COPY" (plaintiff's exhibit 52). These procedures, of which Sensonics complains forcefully, demean the litigation process.

Sensonics also points to Aerosonic's motion to the district court filed October 22, 1991, opposing Sensonics' motion of October 15, 1991 to lift the stay for reexamination. Aerosonic assuring the court that the re-examination certificate had not issued, when it had issued on September 24, 1991. Before this aspect was resolved another year passed, during which the patent expired.

Combined with these actions is the matter of manufacturing records. Aerosonic employees admitted that prior serial number logs existed as late as eighteen months after the suit was filed, although no witness could tell what became of these logs. Aerosonic employees testified that they did not know how many devices were manufactured, even

¹ Mr. Frank, then president, chief executive officer, and chief of engineering at Aerosonic, wrote: "Aerosonic Corporation purchased the violators from another company, and if you have some legal action, it would be against them." [signed] "Herbert J. Frank, President".

for purposes of warranty control. Employees in responsible management positions testified that they did not have any records or any idea of how many devices were manufactured. The Supervisor of the Electronics Department, who personally kept the final six months' log of serial numbers, testified that a previous log must have existed when she started the remaining log with serial number 21,267, but that it no longer existed or could be produced. As we have discussed, there is an uncompromising duty to preserve relevant records, and particularly after litigation has begun.

It is the judicial duty to refuse to condone behavior that exceeds reasonable litigation tactics. The district court made no findings concerning whether Aerosonic's actions were taken in good faith. Indeed, the court may consider the litigation actions of both sides in connection with § 285. See *Beatrice Foods*, 923 F.2d at 1580, 17 USPQ2d at 1556 (requiring findings of fact on the issue of bad faith). We remand for determination of whether there was bad faith or vexatious behavior or other grounds for deeming this case exceptional in terms of 35 U.S.C. § 285. If so, the district court may determine whether the award of attorney fees is warranted.

APPEAL OF HERBERT J. FRANK

Mr. Frank was the founder, owner, president, chief executive officer, and chief of engineering of Aerosonic. In 1990 he became chairman, his son-in-law became president, and Mr. Frank continued as chief executive officer for an additional two years. The district court found Mr. Frank personally liable for inducement to infringe the '114 patent. Mr. Frank appeals.

The tort of "inducement" under 35 U.S.C. § 271(b), when applied to invoke personal liability, is premised on a concept of tortfeasance whereby persons in authority and control may in appropriate circumstances be deemed liable for wrongdoing, when inducing direct infringement by another. See *Walter Technologies Corp. v. Calco, Ltd.*, 850 F.2d 660, 7 USPQ2d 1097 (Fed. Cir.) (finding liability for inducement based on specific circumstances of personal control of Calco's manufacture of the infringing products), cert. denied, 488 U.S. 968 (1988), *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1578-79, 1 USPQ2d 1081, 1090 (Fed. Cir. 1986) (corporate officers who actively aid and abet their corporation's infringement may be personally liable for inducing infringement).

[8] Mr. Frank testified that he did not have the authority to control or discontinue production of the device after he became aware of Sensonics' patent rights or as the litigation progressed. The district court did not believe this statement. We do not discern clear error in this credibility determination, for the weight of evidence was strongly contrary to this testimony. In the absence of reversible error, the district court's ruling that Mr. Frank is liable for inducement to infringe, and jointly and severally liable for the judgment, is affirmed.

Summary

The district court's rulings of validity, enforceability, and infringement of the '114 patent are affirmed. Damages shall be measured on the basis of 7,347 infringing units, without enhancement. The denial of prejudgment interest is reversed. On remand the damages award and interest shall be recalculated, and the district court shall make findings on the issue of whether this is an exceptional case for the purposes of 35 U.S.C. § 285.

On Mr. Frank's individual appeal, the district court's judgment is affirmed. Costs to Sensonics.

AFFIRMED IN PART, MODIFIED AND REVERSED IN PART, AND REMANDED.

Patent and Trademark Office Trademark Trial and Appeal Board

In re Broadway Chicken Inc.

Serial No. 74/326,626

Decided March 26, 1996

Released April 4, 1996

TRADEMARKS AND UNFAIR TRADE PRACTICES

1. Practice and procedure in Patent and Trademark Office — Ex parte proceedings — In general (§325.0501)

JUDICIAL PRACTICE AND PROCEDURE

Procedure — Evidence — In general (§410.3701)

Evidence offered by applicant for registration of "Broadway Chicken" mark for restaurant services, which consists of telephone and business directory listings of restaurants

TRADEMARKS AND UNFAIR TRADE PRACTICES

2. Infringement; conflicts between marks — Likelihood of confusion — Evidence of — In general (§335.0303.01)

Evidence of widespread third-party use, in particular field, of marks containing certain shared term is competent to suggest that purchasers have been conditioned to look to other elements of marks as means of distinguishing source of goods or services in that field.

3. Infringement; conflicts between marks — Likelihood of confusion — Particular marks — Confusion not likely (§335.0304.05)

Confusion is not likely to result from contemporaneous use of applicant's "Broadway Chicken" mark and registered marks "Broadway Pizza" and "Broadway Bar & Pizza" in connection with restaurant services, since applicant's evidence of widespread third-party use of trade names and marks containing term "Broadway" for restaurant services, closely related goods and services, and unrelated goods and services, viewed together with differences in marks and geographic significance of term "Broadway," is sufficient in ex parte proceeding to warrant finding that confusion is not likely.

Appeal from final refusal of intent-to-use application for trademark registration (Zahleh S. Khabiri, examining attorney; R. Ellsworth Williams, managing attorney).

Application of Broadway Chicken Inc., no. 74/326,626, filed October 28, 1992, for registration of mark "Broadway Chicken," for restaurant services. From final refusal of registration, applicant appeals. Reversed.

Before Rice, Hanak, and Hohlein, administrative trademark judges.